REVISTA BRASILEIRA DE REUMATOLOGIA

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SOCIEDADE BRASILEIRA DE REUMATOLOGIA

Original article

Prevalence of sexual dysfunction among female patients followed in a Brasília Cohort of early rheumatoid arthritis

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ARTICLE INFO

Article history:
Received 20 February 2013
Accepted 6 October 2014
Available online 7 January 2015

Keywords:
Sexual dysfunction
Sexuality
Rheumatoid arthritis
Quality of life

ABSTRACT

Objective: To determine the prevalence of sexual dysfunction in women diagnosed with early rheumatoid arthritis (RA) (less than one year of symptoms at the time of diagnosis), as well as to evaluate the possible association between sexual dysfunction with AR activity and functional disability.

Methods: Cross-sectional study assessing women diagnosed with early RA, accompanied *per protocol* in the Brasilia Cohort, Hospital Universitário de Brasília. Demographics, disease activity index (Disease Activity Score 28 – DAS 28) and functional disability questionnaire (Health Assessment Questionnaire – HAQ), were obtained by direct interviews. The Female Sexual Function Index (FSFI) was used questionnaire which contains 19 items that assess six domains: sexual desire, sexual arousal, vaginal lubrication, orgasm, sexual satisfaction and pain.

Results: 68 patients studied, of whom 54 (79.4%) reported sexual activity in the last four weeks. The participants were 49.7 ± 13.7 (mean ± SD) years old and the majority were married (61.4%). The mean DAS 28 was 3.6 ± 1.5 and the mean HAQ was 0.7. The prevalence of sexual dysfunction (FSFI ≤26) was 79.6%. There was no association of disease activity or of functional disability with the occurrence of sexual dysfunction in the female patients evaluated.

Conclusion: The prevalence of sexual dysfunction found in this study was higher than that reported in the literature in healthy women. A knowledge of the extent of the problem is needed to provide adequate therapeutic options for these patients.

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http://dx.doi.org/10.1016/j.rbre.2014.10.006
2255-5021/

Prevalência de disfunção sexual entre pacientes acompanhadas na coorte Brasília de artrite reumatoide inicial

Palavras-chave:
Disfunção sexual
Sexualidade
Artrite reumatoide
Qualidade de vida

RESUMO

Objetivo: Determinar a prevalência de disfunção sexual em mulheres com diagnóstico de artrite reumatoide (AR) inicial (menos de um ano de sintomas ao diagnóstico), bem como avaliar a possível associação entre disfunção sexual com atividade da AR e incapacidade funcional.

Métodos: Estudo transversal, que avaliou mulheres com diagnóstico de AR inicial, acompanhadas de forma protocolar na coorte Brasília, no Hospital Universitário de Brasília. Dados demográficos, índice de atividade da doença (Disease Activity Score 28 – DAS 28) e dados do questionário de incapacidade funcional (Health Assessment Questionnaire – HAQ) foram obtidos por entrevistas diretas. Usou-se o índice de função sexual feminina (Female Sexual Function Index – FSFI), questionário que contém 19 itens que avaliam seis domínios: desejo sexual, excitação sexual, lubrificação vaginal, orgasmo, satisfação sexual e dor.

Resultados: Foram estudadas 68 pacientes, das quais 54 (79,4%) relataram atividade sexual nas últimas quatro semanas. A média de idade foi de $49,7 \pm 13,7$ anos e a maioria era casada (61,4%). O DAS-28 médio foi de $3,6 \pm 1,5$ e a média do HAQ foi de 0,7. A prevalência de disfunção sexual (FSFI $\leq$26) foi de 79,6%. Não houve associação de atividade de doença nem de incapacidade funcional com a ocorrência de disfunção sexual nas pacientes avaliadas.

Conclusão: A prevalência de disfunção sexual encontrada neste estudo foi superior à relatado na literatura em mulheres saudáveis. Há necessidade de conhecimento da extensão do problema para oferecer possibilidades terapêuticas adequadas aos pacientes.

Introduction

Rheumatoid arthritis (RA) is a systemic chronic and progressive disease that preferentially affects the synovial membrane of joints and can lead to bone and cartilage destruction.[1,2] The disease leads to various degrees of disability and has a profound impact on the social, economic and psychological aspects of the patient's life.[3]

Sexual function (FS) is a major component of quality of life, with higher amplitude than sexual intercourse itself.[4,5] Sexual expression is a crucial part of the individual's own identity, and therefore important in all stages of health and disease.[6] A full sexual functioning consists in the transition between phases, from excitement to relaxation, with pleasure and satisfaction.[7] Sexual dysfunction (SD) is defined as the inability to participate in the sexual act with satisfaction, compromising the desire and/or arousal and/or orgasm.[4] Sexuality influences behavior and defines gender roles; and both in the physical and psychological sense, becomes part of the lifestyle of the individual of all ages.[3] SD not only compromises sexual satisfaction, but also overall life satisfaction, determining a lower quality of life, low self-esteem, depression, anxiety and prejudice in interpersonal and partner relationship.[4] The main risk factors for SD have organic, psychosocial and sociodemographic origin, with emphasis on age, family income and education.[4,8] Some authors suggest that female sexual dysfunction sometimes reaches more than 40% of women.[9]

Competence, motivation and sexual expression are decreased in patients with RA.[10] Most of the sexual problems experienced by these patients are related to disease activity, pain, loss of joint motion, functional disability, or fatigue.[11] Other factors include depression, anxiety, loss of self-esteem and difficulty in discussing the disease.[11] The percentage of patients with arthritis who experience sexual problems varies across studies, from 31 to 76%.[4,7,10–12]

The two main fields of sexual problems experienced by patients with RA are: difficulty in performing the sexual act (sexual disability) and decreased sex drive, reflected both in sexual desire and in a decreased sexual satisfaction. Sexual incapacity is manifested by problems such as joint pain and fatigue during intercourse, presented by 50–61% of patients with RA. Difficulty in assuming certain positions when hip or knee movements are limited and dyspareunia due to vaginal dryness in secondary Sjögren's syndrome are observed. Decreased sex drive is manifested by a decreased desire in 50–60% of patients with RA, and by a low frequency of sexual intercourse in 73% of patients.[3,7,13]

Although SF's commitment is a major problem for patients diagnosed with RA, adequate information on this subject are scarce.[3] Sexuality is rarely addressed in questionnaires on quality of life or during interviews between doctor and patient.

It is very important that rheumatologists and other health professionals acknowledge the impact that RA promotes in sexuality, since this knowledge facilitates the discussion between doctor and patient, when addressing the influence of the disease in several domains of patients' quality of life. Additionally, it allows an optimization of the treatment of RA, here encompassing the attention to the patient's sexual difficulties.[11]

No Brazilian data exist on the prevalence of sexual dysfunction in women with early RA. This study aims to describe the prevalence of sexual dysfunction in female patients with early rheumatoid arthritis followed in the outpatient clinic of RA and to evaluate the possible association between sexual dysfunction with disease activity and functional disability.

Patients and methods

RA patients pertaining to the Brasília Cohort were evaluated. Brasilia Cohort[14–17] is an incident cohort of patients with early RA, accompanied at the outpatient clinic of Rheumatology, Hospital Universitário de Brasília, Universidade de Brasília. For inclusion in this cohort, early RA is defined as the occurrence of compatible joint symptoms (joint pain and swelling with an inflammatory pattern, with or without morning stiffness or other manifestations suggestive of inflammatory joint disease, assessed by a single observer) lasting more than 6 weeks and less than 12 months, regardless of the fulfillment of the American College of Rheumatology (ACR) criteria.[18] All patients selected fulfilled retrospectively EULAR/ACR 2010 criteria.[19]

From the time of diagnosis, the patients are followed prospectively, receiving the standard treatment regimen used in the Service, including the traditional disease-modifying antirheumatic drugs (DMARDs) or biological response modifiers (biological therapy), according to the patient's need. Currently, patients followed *per protocol* for up to 10 years after the initial diagnosis participate in this cohort.

The study was conducted from January to May 2012, with direct interviews and clinical record reviews. Information on age, duration of disease, years of education, marital status, Disease Activity Score 28 (DAS-28)[20] and functional disability questionnaire (Health Assessment Questionnaire – HAQ) were obtained.[21]

The presence of sexual dysfunction was assessed through completion of the Female Sexual Function Index (FSFI), a questionnaire proposed by Rosen et al. in 2000[22,23] and validated for the Portuguese idiom by Pacagnella et al. in 2009[9] FSFI is a self-administered questionnaire that aims to assess female sexual response into six domains: sexual desire, sexual arousal, vaginal lubrication, orgasm, sexual satisfaction and pain. FSFI presents 19 questions that evaluate sexual function in the last four weeks. Each question receives a score ranging from 0 to 5 points, and the end result is the sum of the scores for each domain, multiplied by a correction factor that homogenizes the influence of each domain. A total score $\leq$26 indicates sexual dysfunction.[9,22,23] Given that the instrument used in this study to assess sexual function contemplated only female patients, male patients were excluded from the analysis.

Female patients selected consecutively into Brasilia Cohort participated as volunteers in the study, after clarification on its content and after signing the Free and Informed Consent Form. The study was approved by the Ethics Committee, Medicine School, Universidade de Brasília (CEP-FM 030/2010).

Statistical analysis

A descriptive analysis was used to describe the general characteristics of the population. Student's *t* or Mann–Whitney

Table 1 – Comparisons between patients with early RA divided into groups with and without sexual dysfunction.

Characteristics	♀ With sexual dysfunction (*n* = 43)	♀ Without sexual dysfunction (*n* = 11)	*P*
Age in years, mean (±SD)	48.51 (±12.59)	42.09 (±12.64)	0.208[a]
Disease duration (±SD)	6.05 (±2.19)	5.0 (±2.28)	0.13[a]
DAS-28 (±SD)	3.84 (±1.53)	3.32 (±1.29)	0.29[a]
HAQ	0.80	0.39	0.09[a]
Education			
Illiterate (*n* %)	2 (4.65%)	1 (9.09%)	0.502[b]
<7 years of education (*n* %)	13 (30.23%)	2 (18.18%)	0.253[b]
>7 years of education (*n* %)	28 (65.11%)	9 (81.81%)	0.470[b]
Marital status			
Married (*n* %)	24 (55.81%)	8 (72.72%)	0.493[b]
Stable union (*n* %)	8 (18.60%)	0	0.184[b]
Single (*n* %)	3 (6.97%)	2 (18.18%)	0.266[b]
Separate (*n* %)	6 (13.95%)	1 (9.09%)	1.0[b]
Widower (*n* %)	2 (4.65%)	0	1.0[b]
Weight			
Normal weight (*n* %)	17 (40.47%)	4 (44.44%)	1.000[b]
Overweight (*n* %)	17 (40.47%)	4 (44.44%)	1.000[b]
Obesity (*n* %)	8 (19.04%)	1 (11.11%)	0.667[b]

[a] Student's *t*-test.
[b] Fischer test.

Table 2 – FSFI domains discriminated.

FSFI domains	Possible answers
Domain: sexual desire	
Question # 1 – In the last four weeks, how often did you feel desire or sexual interest?	1. Almost always or always 2. Most of the time (more than half of the time) 3. Sometimes (about half of the time) 4. A few times (less than half the time) 5. Almost never, or never
Question # 2 – In the last four weeks, how do you rate your level of desire or sexual interest?	1 Very high 2. High 3 Moderate 4 Low 5 Very low or absolutely absent
Domain: sexual arousal	
Question # 3 – In the last four weeks, how often you felt sexually aroused during sexual activity or intercourse?	1. No sexual activity 2. Almost always, or always 3. Most of the time (more than half of the time) 4. Sometimes (about half of the time) 5. A few times (less than half the time) 6. Almost never, or never
Question # 4 – In the past 4 weeks, how would you rate your level of sexual arousal during sexual activity or intercourse?	1. No sexual activity 2. Very high 3. High 4. Moderate 5. Low 6. Very low, or absolutely absent
Question # 5 – In the last four weeks, how do you rate your level of assurance to become sexually aroused during sexual activity or intercourse?	1. No sexual activity 2. Very high assurance 3. High assurance 4. Moderate assurance 5. Low assurance 6. Very low or no assurance
Question # 6 – In the past 4 weeks, how often you were satisfied with your sexual arousal during sexual activity or intercourse?	1. No sexual activity 2. Almost always, or always 3. Most of the time (more than half of the time) 4. Sometimes (about half of the time) 5. A few times (less than half the time) 6. Almost never, or never
Domain: vaginal lubrication	
Question # 7 – In the last four weeks, how often you had vaginal lubrication (got a “wet” vagina) during sexual activity or intercourse?	1. No sexual activity 2. Almost always, or always 3. Most of the time (more than half of the time) 4. Sometimes (about half of the time) 5. A few times (less than half the time) 6. Almost never, or never
Question # 8 – In the last four weeks, how do you rate your difficulty in having vaginal lubrication (got a “wet” vagina) during intercourse or sexual activities?	1. No sexual activity 2. Extremely difficult, or impossible 3. Very difficult 4. Difficult 5. Slightly difficult 6. Not at all difficult
Question # 8 – In the last four weeks, how do you rate your difficulty in having vaginal lubrication (got a “wet” vagina) during intercourse or sexual activities?	1. No sexual activity 2. Extremely difficult, or impossible 3. Very difficult 4. Difficult 5. Slightly difficult 6. Not at all difficult
Question # 9 – In the last four weeks, how often you kept vaginal lubrication (got a “wet” vagina) until the end of sexual activity or intercourse?	1. No sexual activity 2. Almost always, or always 3. Most of the time (more than half of the time) 4. Sometimes (about half of the time) 5. A few times (less than half the time)

Table 2 – (*Continued*)

FSFI domains	Possible answers
	6. Almost never, or never
Question # 10 – In the last four weeks, which was your difficulty in maintaining vaginal lubrication (stay with a "wet" vagina) until the end of the sexual activity or intercourse?	1. No sexual activity 2. Extremely difficult, or impossible 3. Very difficult 4. Difficult 5. Slightly difficult 6. Not at all difficult
Domain: orgasm	
Question # 11 – In the last four weeks, when you had sexual stimulation or practiced intercourse, how often you reached orgasm ("sexual climax")?	1. No sexual activity 2. Almost always, or always 3. Most of the time (more than half of the time) 4. Sometimes (about half of the time) 5. A few times (less than half the time) 6. Almost never, or never
Question # 12 – In the last four weeks, when you had sexual stimulation or practiced intercourse, which was your difficulty in reaching orgasm (sexual climax)?	1. No sexual activity 2. Extremely difficult, or impossible 3. Very difficult 4. Difficult 5. Slightly difficult 6. Not at all difficult
Question # 13 – In the past 4 weeks, how satisfied were you with your ability to reach orgasm (sexual climax) during sexual activity or intercourse?	1. No sexual activity 2. Very satisfied 3. Moderately satisfied 4. Almost equally satisfied and dissatisfied 5. Moderately dissatisfied 6. Very dissatisfied
Domain: sexual satisfaction	
Question # 14 – In the past 4 weeks, how satisfied have you been with the emotional closeness between you and your partner during sexual activity?	1. No sexual activity 2. Very satisfied 3. Moderately satisfied 4. Almost equally satisfied and dissatisfied 5. Moderately dissatisfied 6. Very dissatisfied
Question # 15 – In the past 4 weeks, how satisfied have you been with sexual relationship between you and your partner?	1. No sexual activity 2. Very satisfied 3. Moderately satisfied 4. Almost equally satisfied and dissatisfied 5. Moderately dissatisfied 6. Very dissatisfied
Question # 16 – In the past 4 weeks, how satisfied have you been with your sexual life in general?	1. No sexual activity 2. Very satisfied 3. Moderately satisfied 4. Almost equally satisfied and dissatisfied 5. Moderately dissatisfied 6. Very dissatisfied
Domain: pain	
Question # 17 – In the last four weeks, how often you felt discomfort or pain during vaginal penetration?	1. No sexual activity 2. Almost always, or always 3. Most of the time (more than half of the time) 4. Sometimes (about half of the time) 5. A few times (less than half the time) 6. Almost never, or never
Question # 18 – In the last four weeks, how often you feel discomfort or pain following vaginal penetration?	1. No sexual activity 2. Almost always, or always 3. Most of the time (more than half of the time) 4. Sometimes (about half of the time) 5. A few times (less than half the time) 6. Almost never, or never
Question 19 – In the past 4 weeks, how would you rate your level of discomfort or pain during or following vaginal penetration?	1. No sexual activity 2. Very high 3. High 4. Moderate 5. Low 6. Very low, or absolutely absent

test was used to analyze continuous variables. Categorical variables were analyzed by Chi-squared or Fisher's exact test, where appropriate. We considered $P < 0.05$ as statistically significant.

Results

Of the 78 patients with early RA evaluated in the period, 68 female patients (87.1% of the sample) were selected; 10 male patients (12.8% of the sample) were excluded. The mean age of the study population was 49.7 ± 13.7 years (mean ± SD).

Regarding marital status, 61.4% (35 patients) reported being married, 11.7% (8 patients) reported maintaining a stable relationship with a partner, 13.2% (9 patients) reported being single, 8 patients (11.7%) declared themselves separate and 8 patients (11.7%) reported being widowed. With regard to education, 4.4% of patients were illiterate, 32.3% had between 1 and 7 years of formal education and 63.2% reported more than 7 years of schooling.

Fifty-four women (79.4%) reported sexual activity in the last four weeks and 14 (20.5%) declared themselves with no sexual activity in the month preceding the questionnaire. The prevalence of sexual dysfunction (FSFI ≤26) among the 54 patients with sexual activity was 79.6% (43 patients).

The general characteristics of patient groups with and without sexual dysfunction are shown in Table 1. In the sexual dysfunction group (43 patients), 97.67% were using synthetic DMARDs and 13.95% were using biological DMARDs (infliximab, 2; adalimumab, 1; abatacept, 2; and rituximab, 1 patient).

In the group without sexual dysfunction (11 patients), 90.90% were using synthetic DMARDs and 18.18% were using biological DMARDs (infliximab, 1 patient; and rituximab, 1 patient).

Tables 2 and 3 show, respectively, the domains of FSFI and the possible outcomes, separately for each one of questionnaire's questions.

In the evaluation of different age groups, we observed differences in affected domains in FSFI in the groups with and without sexual dysfunction (Table 4). In the group aged 51–60 years and in that group ≥61 years, only one patient in each group showed no sexual dysfunction. Regarding the status of "no sexual activity" in the last four weeks, we observed the following distribution according to age groups: ≤ 30 years, 20% ($n = 1$) of patients had no sexual activity; 31–40 years, all patients had an active sexual life; 41–50, 6.7% had no sexual activity; 51–60, 24% ($n = 4$) had no sexual intercourse; ≥61 years, 47% ($n = 8$) had no sexual activity.

There was no statistical difference between groups (with and without sexual dysfunction) with respect to marital status, length of formal education, body mass index (BMI), disease activity (DAS-28), functional disability (HAQ) or use medications (synthetic DMARDs and biologicals).

Table 3 – Results detailed for each of the six domains of FSFI.

FSFI domains	♀ With sexual dysfunction ($n = 43$)	♀ Without sexual dysfunction ($n = 11$)
Domain: sexual desire		
Question # 1 (*n* %)	1 (2.32%)	3 (27.27%)
	1 (2.32%)	3 (27.27%)
	5 (11.62%)	3 (27.27%)
	21 (48.83%)	2 (18.18%)
	15 (34.88%)	0
Question # 2 (*n* %)	0	0
	0	2 (18.18%)
	12 (27.90%)	8 (72.72%)
	19 (44.18%)	1 (9.09%)
	12 (27.90%)	0
Domain: sexual arousal		
Question # 3 (*n* %)	2 (4.65%)	0
	2 (4.65%)	5 (45.45%)
	2 (4.65%)	1 (9.09%)
	6 (13.95%)	5 (45.45%)
	16 (37.20%)	0
	15 (34.88%)	0
Question # 4 (*n* %)	1 (2.32%)	0
	0	1 (9.09%)
	0	5 (45.45%)
	12 (27.90%)	5 (45.45%)
	15 (34.88%)	0
	15 (34.88%)	0
Question # 5 (*n* %)	10 (23.25%)	0
	1 (2.32%)	2 (18.18%)
	0	4 (36.36%)
	15 (34.88%)	5 (45.45%)
	7 (16.27%)	0
	10 (23.25%)	0
Question # 6 (*n* %)	10 (23.25%)	0
	2 (4.65%)	8 (72.72%)
	4 (9.30%)	2 (18.18%)
	8 (18.60%)	1 (9.09%)
	11 (25.58%)	0
	8 (18.60%)	0
Domain: vaginal lubrication	8 (18.60%)	0
Question # 7 (*n* %)	4 (9.30%)	6 (54.54%)
	4 (9.30%)	1 (9.09%)
	5 (11.62%)	4 (36.36%)
	14 (32.55%)	0
	8 (18.60%)	0
Question # 8 (*n* %)	10 (23.25%)	0
	1 (2.32%)	0
	6 (13.95%)	1 (9.09%)
	10 (23.25%)	1 (9.09%)
	8 (18.60%)	2 (18.18%)
	8 (18.60%)	7 (63.63%)
Question # 9 (*n* %)	9 (20.93%)	0
	3 (6.97%)	6 (54.54%)
	5 (11.62%)	3 (27.27%)
	6 (13.95%)	0
	10 (23.25%)	2 (18.18%)
	10 (23.25%)	0
Question # 10 (*n* %)	13 (30.23%)	0
	1 (2.32%)	0
	4 (9.30%)	0
	8 (18.60%)	1 (9.09%)
	9 (20.93%)	2 (18.18%)
	8 (18.60%)	8 (72.72%)

Discussion

RA can influence sexual function in several aspects.[10] The reasons for disturbance in sexual functioning are multifactorial and include aspects related to the disease itself, as well as

Table 3 – (*Continued*)

FSFI domains	♀ With sexual dysfunction (*n* = 43)	♀ Without sexual dysfunction (*n* = 11)
Domain: orgasm		
Question # 11 (*n* %)	11 (25.58%)	0
	0	5 (45.45%)
	2 (4.65%)	4 (36.36%)
	5 (11.62%)	1 (9.09%)
	16 (37.20%)	1 (9.09%)
	9 (20.93%)	0
Question # 12 (*n* %)	11 (25.58%)	0
	1 (2.32%)	0
	7 (16.27%)	0
	10 (23.25%)	0
	9 (20.93%)	3 (27.27%)
	5 (11.62%)	8 (72.72%)
Question # 13 (*n* %)	14 (32.55%)	0
	2 (4.65%)	7 (63.63%)
	10 (23.25%)	4 (36.36%)
	5 (11.62%)	0
	6 (13.95%)	0
	6 (13.95%)	0
Domain: sexual satisfaction		
Question # 14 (*n* %)	14 (32.55%)	0
	5 (11.62%)	9 (81.81%)
	9 (20.93%)	1 (9.09%)
	6 (13.95%)	0
	5 (11.62%)	1 (9.09%)
	4 (9.30%)	0
Question # 15 (*n* %)	15 (34.88%)	0
	5 (11.62%)	10 (90.90%)
	9 (20.93%)	1 (9.09%)
	8 (18.60%)	0
	5 (11.62%)	0
	1 (2.32%)	0
Question # 16 (*n* %)	13 (30.23%)	0
	1 (2.32%)	8 (72.72%)
	11 (25.58%)	3 (27.27%)
	5 (11.62%)	0
	6 (13.95%)	0
	7 (16.27%)	0
Domain: pain		
Question # 17 (*n* %)	11 (25.58%)	0
	6 (13.95%)	0
	2 (4.65%)	1 (9.09%)
	7 (16.27%)	0
	8 (18.60%)	0
	9 (20.93%)	10 (90.90%)
Question # 18 (*n* %)	11 (25.58%)	0
	4 (9.30%)	0
	3 (6.97%)	0
	3 (6.97%)	1 (9.09%)
	10 (23.25%)	1 (9.09%)
	12 (27.90%)	9 (81.81%)
Question # 19 (*n* %)	12 (27.90%)	0
	3 (6.97%)	0
	1 (2.32%)	0
	11 (25.58%)	1 (9.09%)
	4 (9.30%)	1 (9.09%)
	12 (27.90%)	9 (81.81%)

to treatment.[7,24] Physical and emotional problems and difficulties in finding partnership as a result of disease-related stress contribute to a less active and often less pleasant sexual life.[7,24] Chronic pain, fatigue and low self-esteem can diminish the sexual interest, thus reducing the frequency of intercourse.[7,24]

In our study, we found a high frequency of sexual dysfunction (79.6%) of patients with active sexual life, a higher figure than in most previous studies in patients with established RA.[4,7,10–12] Abdel-Nasser et al.[3] showed in their study that over 60% of female patients with RA had difficulty in sexual performance (sexual disability) and a significant decrease in sex drive.[3]

In a previous study conducted by our group[25] that evaluated 163 patients with diagnoses of various rheumatic diseases, including 24 patients with established RA, we found sexual dysfunction in 18.4% of evaluated patients, and 8.3% of patients with RA had a FSFI score <26. It is important to mention that in this previous study, 24.2% of all patients and 17% of RA patients had no sexual activity during the study period. However, we would expect a lower frequency of sexual dysfunction in patients with early RA than in those with established RA, in view of an earlier treatment, and possibly the presence of less deformity in patients with early disease. This difference in prevalence may be explained by other factors that influence sexual function, such as emotional issues and comorbidities, such as depression, which were not evaluated in our study. In support of this explanation, Karlsson et al.[26] found that patients with early RA are less satisfied with their life as a whole, compared with a reference group of patients with long-term illness.

Patients with early RA also reported low levels of satisfaction with self-care, work and sexual life activities.[7,26] In our study, we did not evaluate labor and self-care ability variables.

Hill et al. evaluated the effect of RA on the relationship between partners and demonstrated that 35% of patients believed that the disease interfered with the relationship with the partner, due to problems such as decrease in daily and social activities and emotional and financial changes.[4,6]

In the present study, we found no association between the occurrence of sexual dysfunction and disease activity. Also, no significant association between functional disability and sexual dysfunction was observed. However, in the study of Abdel-Nasser et al.,[3] sexual disability was related, among other factors, to disease activity, pain and disability measured by HAQ. In another study, El Miedany et al.[10] showed a prevalence of 45.7% of SD in female patients diagnosed with RA, showing correlation of SD with several markers of disease activity.

We observed the influence of age in relation to sexual dysfunction, as expected. With increasing age, more of FSFI domains were affected, with an increase of the percentage of patients without sexual activity.

In 2007, a French study from the *Association Française des Polyarthritiques* evaluated the impact of RA on patients' sexuality by sending questionnaires to about 7700 patients. Of the patients who returned completed questionnaires,

Table 4 – FSFI domains according to age groups.

Age groups and FSFI domains	♀ With sexual dysfunction ($n=43$)	♀ Without sexual dysfunction ($n=11$)	P
≤30 years			
n	2	2	–
Sexual desire	2.7 ± 0.42	3.9 ± 0.42	0.10
Sexual arousal	2.7 ± 0.42	5.5 ± 0.21	0.013
Vaginal lubrication	3.45 ± 0.21	4.95 ± 1.48	0.29
Orgasm	3.2 ± 0.56	6 ± 0	0.019
Sexual satisfaction	2.6 ± 0.84	5.8 ± 0.28	0.003
Pain	3.8 ± 0.84	4.6 ± 1.9	0.65
31–40 years			
n	11	3	–
Sexual desire	2.56 ± 0.54	4.4 ± 0.91	0.0006
Sexual arousal	2.80 ± 0.98	4.9 ± 0.62	0.005
Vaginal lubrication	3.7 ± 1.67	5.6 ± 0.45	0.08
Orgasm	3.09 ± 1.37	5.3 ± 0.61	0.019
Sexual satisfaction	3.63 ± 1.5	5.6 ± 0.69	0.05
Pain	4.1 ± 1.66	6 ± 0	0.85
41–50 years			
n	10	4	–
Sexual desire	2.34 ± 1.07	4.05 ± 0.9	0.01
Sexual arousal	2.22 ± 1.29	4.57 ± 0.99	0.007
Vaginal lubrication	2.9 ± 2.09	5.1 ± 1.06	0.07
Orgasm	2.76 ± 1.8	5.3 ± 0.94	0.02
Sexual satisfaction	3 ± 1.84	6 ± 0	0.008
Pain	3.08 ± 2.22	5.9 ± 0.2	0.02

Student's *t*-test used in all these analyzes.

51% reported an adverse impact of the disease on their sexuality.[10,11,27]

Studies in RA patients unselected for disease duration suggest that obesity is associated independently with a worse quality of life.[28] Obesity is associated with higher concentrations of inflammation markers such as C-reactive protein (CRP), interleukin 6 (IL-6) and tumor necrosis factor alpha (TNF-α) and therefore obese RA patients may present with a more severe and active disease.[28,29]

García-Poma et al.[29] reported that, in patients with RA, the health-related quality of life is impaired due to several factors. In their study, these authors suggest that patients with RA who are obese are more likely to present a reduced quality of life compared with normal-weight patients, regardless of other characteristics such as gender, age, activity of disease, extra-articular disease, presence of rheumatoid factor, level of depression, socioeconomic status, or disease duration. In this study, we found no direct relationship between the prevalence of sexual dysfunction and the occurrence of obesity among patients with early RA.

Sexual functioning is a neglected area of quality of life in patients with rheumatic diseases.[7] Rheumatologists are increasingly willing to discuss areas that are not directly related to the pharmacological treatment of joint diseases, such as quality of life, fatigue and patient education. However, sexuality is rarely addressed in relation to the quality of life.[11,30]

In a recent survey with ten rheumatologists, only 12% of patients seen in their clinical practice have been evaluated for sexual activity.[31] This apparent lack of interest, by the physician, with respect of the sexual function of their patients could be explained, according to respondents, by factors such as limited consultation time, discomfort when discussing sexuality (both by physician and patient), and uncertainties about the role of the doctors and their competence on issues of patients' sexuality.[3,7,11,31] This demonstrates the importance of further studies that evaluate sexual function in rheumatic diseases and their disclosure among experts, aiming at a more comprehensive treatment of patients.

Our study has some limitations. This is a cross-sectional study, which, thus, does not allow the establishment of a cause-effect relationship. The number of female patients evaluated in this study was relatively small, especially the number of patients with early RA without sexual dysfunction, which constituted a minority of the total number of assessed women. Another limiting factor was the fact that the patients were evaluated in a cohort study in a tertiary hospital, a regional reference in Rheumatology. Thus, probably our evaluated female patients had more severe conditions than patients followed up in a primary health care service. Furthermore, we did not evaluate other comorbidities that may influence sexual function, such as depression and Sjögren's syndrome. These factors should be taken into consideration, so that the results observed should not be extrapolated for all female patients diagnosed with early RA.

However, this is the first study which we are aware that specifically assesses sexual function in patients with early

RA, with a concomitant evaluation of functional disability and disease activity.

Conclusion

The prevalence of sexual dysfunction found in this study was higher compared both with the figures published in the literature in healthy women (up to 40%), as those found in patients with rheumatoid arthritis (31–76%), including previous cases of established RA in our Service. Given that sexuality is regarded as one of the major determinants of reduced quality of life, questions that address these aspects should be among the parameters that evaluate the course of disease. Studies assessing the extent of sexual dysfunction in a specific manner with respect to patients with early RA are necessary, so that therapeutic alternatives aiming to improve not only the physical health, but also the quality of life of the patient, be offered.

Conflicts of interest

The authors declare no conflicts of interest.

Acknowledgments

The authors wish to thank Tatiane Vaz Teixeira de Oliveira, Meliane Teixeira Cardoso and Gabriela Porfírio Jardim Santos for their assistance in data collection for the present study.

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